

POCAN® B 1501 000000
Polybutylene Terephthalate
LANXESS GmbH



Prospector

Product Description

PBT, non-reinforced, injection moulding, extrusion, food contact

General

| | | |
|-------------------|---|--|
| Material Status | • Commercial: Active | |
| Availability | • Africa & Middle East | • Europe |
| Features | • Food Contact Acceptable | |
| Processing Method | • Extrusion | • Injection Molding |
| Multi-Point Data | <ul style="list-style-type: none"> • Creep Modulus vs. Time (ISO 11403-1) • Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (ISO 11403-1) | <ul style="list-style-type: none"> • Secant Modulus vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature (ISO 11403-1) • Specific Volume vs Temperature (ISO 11403-2) • Viscosity vs. Shear Rate (ISO 11403-2) |

| Physical | Nominal Value Unit | Test Method |
|--|-----------------------------|-------------|
| Density | 1.30 g/cm ³ | ISO 1183 |
| Apparent Density | 0.80 g/cm ³ | ISO 60 |
| Melt Volume-Flow Rate (MVR) (260°C/2.16 kg) | 18.0 cm ³ /10min | ISO 1133 |
| Molding Shrinkage | | ISO 2577 |
| Across Flow: 260°C, 3.00 mm ² | 1.8 % | |
| Across Flow: 150°C, 1 hr, 3.00 mm ³ | 0.50 % | |
| Flow: 260°C, 3.00 mm ² | 1.8 % | |
| Flow: 150°C, 1 hr, 3.00 mm ³ | 0.50 % | |
| Water Absorption | | ISO 62 |
| Saturation, 23°C | 0.50 % | |
| Equilibrium, 23°C, 50% RH | 0.20 % | |
| Viscosity Number (Reduced Viscosity) | 140.0 ml/g | ISO 1628 |

| Mechanical | Nominal Value Unit | Test Method |
|--|--------------------|--------------|
| Tensile Modulus (23°C) | 2600 MPa | ISO 527-2/1 |
| Tensile Stress (Yield, 23°C) | 60.0 MPa | ISO 527-2/50 |
| Tensile Strain (Yield, 23°C) | 4.0 % | ISO 527-2/50 |
| Nominal Tensile Strain at Break (23°C) | > 50 % | ISO 527-2/50 |
| Tensile Creep Modulus | | ISO 899-1 |
| 1 hr | 2200 MPa | |
| 1000 hr | 1300 MPa | |
| Flexural Modulus ⁴ (23°C) | 2650 MPa | ISO 178 |
| Flexural Strength ⁴ | | ISO 178 |
| 3.5% Strain, 23°C | 75.0 MPa | |
| 23°C | 85.0 MPa | |
| Flexural Strain at Flexural Strength ⁵ (23°C) | 6.0 % | ISO 178 |

| Impact | Nominal Value Unit | Test Method |
|--|------------------------|-----------------|
| Charpy Notched Impact Strength | | ISO 179/1eA |
| -30°C | < 10 kJ/m ² | |
| 23°C | < 10 kJ/m ² | |
| Charpy Unnotched Impact Strength | | ISO 179/1eU |
| -30°C | 200 kJ/m ² | |
| 23°C | No Break | |
| Notched Izod Impact Strength | | ISO 180/1A |
| -40°C | < 10 kJ/m ² | |
| -30°C | < 10 kJ/m ² | |
| 23°C | < 10 kJ/m ² | |
| Unnotched Izod Impact Strength | | ISO 180/1U |
| -30°C | 200 kJ/m ² | |
| 23°C | No Break | |
| Multi-Axial Instrumented Impact Energy | | ISO 6603-2 |
| 23°C, Energy to Peak Force | 120 J | |
| Hardness | Nominal Value Unit | Test Method |
| Ball Indentation Hardness | 120 MPa | ISO 2039-1 |
| Thermal | Nominal Value Unit | Test Method |
| Heat Deflection Temperature | | |
| 0.45 MPa, Unannealed | 160 °C | ISO 75-2/B |
| 1.8 MPa, Unannealed | 60.0 °C | ISO 75-2/A |
| 8.0 MPa, Unannealed | 45.0 °C | ISO 75-2/C |
| Vicat Softening Temperature | 180 °C | ISO 306/B50 |
| Ball Pressure Test (190°C) | Pass | IEC 60695-10-2 |
| Melting Temperature | 225 °C | ISO 11357-3 |
| CLTE | | ISO 11359-2 |
| Flow: 23 to 55°C | 0.00012 cm/cm/°C | |
| Transverse: 23 to 55°C | 0.00011 cm/cm/°C | |
| Thermal Conductivity (23°C) | 0.25 W/m/K | ISO 8302 |
| Electrical | Nominal Value Unit | Test Method |
| Relative Permittivity | | IEC 60250 |
| 23°C, 100 Hz | 3.40 | |
| 23°C, 1 MHz | 3.20 | |
| Comparative Tracking Index | | IEC 60112 |
| Solution A | 600 V | |
| Solution B | 425 V | |
| Electric Strength (23°C, 1.00 mm) | 27 kV/mm | IEC 60243-1 |
| Flammability | Nominal Value Unit | Test Method |
| Flame Rating - UL | | UL 94 |
| 0.800 mm | HB | |
| 1.60 mm | HB | |
| Glow Wire Flammability Index (2.00 mm) | 750 °C | IEC 60695-2-12 |
| Oxygen Index ⁶ | 24 % | ISO 4589-2 |
| Burning Behavior ⁷ | passed | ISO 3795 |
| Additional Information | Nominal Value Unit | Test Method |
| Electrolytical Corrosion | A 1 | IEC 60426 |
| Gottfert Melt Viscosity ⁸ (260°C) | 430 Pa·s | Internal Method |
| ISO Shortname | PBT,GR,11-030 | ISO 7792 |
| Residual Moisture Content ⁹ | 0.0 to 0.020 % | |
| Injection | Nominal Value Unit | Test Method |
| Drying Temperature | 120 °C | |
| Drying Time | 4.0 to 8.0 hr | |
| Processing (Melt) Temp | 250 to 260 °C | |

| Injection | Nominal Value Unit |
|------------------|--------------------|
| Mold Temperature | 80.0 to 100 °C |

Notes

¹ Typical properties: these are not to be construed as specifications.

² 150x105x3 mm, 80°C MT, 600 bar

³ 150x105x3 mm

⁴ Type A, 2.0 mm/min

⁵ Type A, 2 mm/min

⁶ Procedure A

⁷ US-FMVSS

⁸ 165 1/s

⁹ Karl Fischer